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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,971	09/27/2000	Daniel J. Sherlock	99PS017/KE	5977
7590	05/14/2004		EXAMINER	NGUYEN, HAU H
Rockwell Collins Inc Intellectual Property Department 400 Collins Road NE MS 124 323 Cedar Rapids, IA 52498			ART UNIT	PAPER NUMBER
			2676	
			DATE MAILED: 05/14/2004	10

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.	Sherlock et al.
09/670,971	
Examiner	Art Unit
Hau H Nguyen	2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 06 March 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 1-26 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 7,11,12 and 24 is/are allowed.
- 6) Claim(s) 1-6,8-10,13-23,25 and 26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

***Response to Arguments***

1. Applicant's arguments filed March 03, 2004 have been fully considered but they are not persuasive. In response to Applicant's argument that reference Sakuyama does not teach superimposing data on a static signal, the examiner disagrees. As described in Sakuyama reference, "when the value of monitor signal is "0", the signal waveform 23, shown in FIG. 5B has a constant voltage, whereas, when the value of monitor signal is "1", the signal waveform 24, in which the carrier signal is superimposed on the constant voltage, is obtained". Applicant's arguments did not show how the static signal of reference Sakuyama is different from that of the application. Instead, Applicant has claimed "the static signal being a status signal indicating an operational condition, and the static signal being a fixed first voltage level to indicate a first status and a second fixed voltage level indicated a second status." In addition, the examiner disagrees with Applicant's argument that the system as taught by Sakuyama is not an electronic system because the monitor signal is converted into electric signal. Since reference Sakuyama meets the minimum requirement of the claims, rejection is maintained.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2, 8-10, and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Sakuyama (U.S. Patent No. 5,729,373).

Referring to claims 1, 2, 8, 10, and 19, Sakuyama teaches a reproducing circuit of the present invention includes an optoelectric converter for receiving an optical signal in which a predetermined monitor signal is superimposed. The optoelectric converter outputs an electric signal having an amplitude in correspondence to an intensity of the received optical signal. A filter extracts a signal component of the monitor signal from the electric signal provided from the optoelectric convertor. The variation of amplitude of the electric signal output from the optoelectric convertor is smoothed by a smoothing circuit. The signal extracted by the filter is converted into a binary signal by a binary signal producing circuit using the magnitude of amplitude of the smoothed signal as a threshold value (col. 1, lines 64-67, and col. 2, lines 1-15). FIGS. 5A to 5D show an example of signal waveforms in various portions of the reproducing circuit shown in FIG. 3. In the output waveform of the preamplifier 107 shown in FIG. 5A, the monitor signal component 22 is superimposed on the main signal component. When the value of the monitor signal is "0", only the main signal component is remained, whereas, when the value as the monitor signal is "1", the main signal is modulated by a carrier signal 22 having a predetermined frequency. When the signal having such a waveform is input to the band pass filter 108, the main signal component having high frequency is removed. Therefore, when the value of monitor signal is "0", the signal waveform 23, shown in FIG. 5B has a constant voltage, whereas, when the value of monitor signal is "1", the signal waveform 24, in which the carrier signal is superimposed on the constant voltage, is obtained (col. 3, lines 56-67, and col. 4, lines 1-4). Thus, the logical value of the static signal does not change.

In regard to claim 9, as cited above, Sakuyama teaches the variation of the threshold voltage is dependent on the intensity of the input signal. Therefore, when the input signal is large enough, the deviation of 5 volts can be produced.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-5, 13-15, 18, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuyama (U.S. Patent No. 5,729,373) in view of admitted prior art.

Referring to claims 3-5, 13-15, 18, 20-22, as applied to claims 1, 10, and 19, Sakuyama teaches all the limitations of claims 3-5, 13-15, 18, 20-22, except that the system is for use in a commercial airline display unit.

However, Applicant's specification admits the ARINC 722 connectors couple to in-flight system display units as prior art, which can be used to interface with LCD display, the ARINC 722 connector comprises an "on indicator" signal, which is a 28-Volt DC level on pin 8 (pages 2-4), including a tapping unit (Fig. 2).

Therefore, it would have been obvious to one skilled in the art to utilize the connectors as admitted in prior art in combination with the method as taught by Sakuyama in order to promote commonality and reduce cost (page 2).

6. Claims 6, 16-17, 23, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Sakuyama (U.S. Patent No. 5,729,373).

Referring to claims 6, 16-17, 23, 25-26, Applicant's specification admits the ARINC 722 connectors couple to in-flight system display units as prior art, which can be used to interface with LCD display, the ARINC 722 connector comprises an "on indicator" signal, which is a 28-Volt DC level on pin 8 (pages 2-4), including a tapping unit (Fig. 2).

Thus, admitted prior art teaches all the limitations of claims 6, 16-17, 23, 25-26, except that the electronic system providing data to be superimposed on a static signal.

However, as cited above, Sakuyama teaches a method of superimposing data on a constant voltage (static signal), and producing deviation of the constant voltage depending the intensity of the input signal data. Sakuyama further teaches a threshold voltage 116 (Fig. 3) of a predetermined voltage is input to the discriminator 115 (a comparator) and is compared with the output of the envelope detector 111 (col. 2, lines 65-67).

Therefore, it would have been obvious to one skilled in the art to utilize the ARINC 722 connectors of admitted prior art in combination with the method as taught by Sakuyama in order to retrieve input signal without being interfered by noise (col. 1, lines 52-55).

#### *Allowable Subject Matter*

7. Claims 7, 11-12, and 24 are allowed.

#### *Reasons for Allowance*

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art taken singly or in combination does not teach or suggest, a method for superimposing data on a static signal, among other things, comprises a shift register for receiving discrete data values (claims 7 and 11), and an optocoupler (claim 24).

The closest prior art Sakuyama (U.S. Patent No. 5,729,373) does not teach a shift register or an optocoupler.

*Conclusion*

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 703-305-4104. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose  
telephone number is (703) 306-0377.

Hau Nguyen

05/09/2004

*Matthew C. Bella*  
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